

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

APPELLANTS: Bocionek et al. CONFIRMATION NO. 9465
SERIAL NO.: 09/994,184 GROUP ART UNIT: 2179
FILED: November 26, 2001 EXAMINER: Sara M. Hanne
TITLE: "MEDICAL SYSTEM ARCHITECTURE WITH AN INTEGRATED
RIS CLIENT ON THE CONSOLE COMPUTER OF A
MODALITY"

MAIL STOP APPEAL BRIEF-PATENTS

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

APPELLANTS' REVISED APPEAL BRIEF

SIR:

In accordance with the provisions of 37 C.F.R. §41.67, Appellants herewith submit their main brief in support of the appeal of the above-referenced application.

REAL PARTY IN INTEREST:

The real party in interest is the assignee of the application, Siemens Aktiengesellschaft, a German corporation.

RELATED APPEALS AND INTERFERENCES:

There are no related appeals and no related interferences.

STATUS OF CLAIMS:

Claims 1-11 are the subject of the present appeal. Claims 1-11 constitute all pending claims of the application and each of claims 1-11 currently stands as rejected. No claim was added or cancelled during prosecution.

STATUS OF AMENDMENTS:

No Amendment was filed subsequent to the final Office Action dated June 2, 2005.

SUMMARY OF THE CLAIMED SUBJECT MATTER:

Claim 1 (which is the only independent claim on appeal) is as follows, with exemplary citations to the specification:

1. A medical system architecture comprising:

a modality for acquiring examination images (any of modalities 1-4, p.7, l.5-9);

a processor connected to said modality for processing said examination images (any of operator consoles 5-8, p.7, l.13-18);

a user interface for said processor; (monitor 15, p. 8, l. 16-17)

a transmission system connected to said processor for transmitting said examination images to a location remote from said processor;
(communication network 9, p. 8, l.5-8)

a memory connected to said transmission system for storing said examination images; (image archiving system 10, p.7, l.13-18)

an RIS server (RIS server 14, p. 8, l.13-15); and

said processor being programmed as an RIS client with an RIS mediator for exchanging text messages (p.8, l.16-23; p. 13, l. 1-5) and for displaying an RIS client window at said interface and for creating RIS interaction masks at said interface, and producing a network connection to said RIS server (p.9, l. 16-20) for communicating with said RIS client to allow transfer of images from said remote location to said processor via said RIS server (p.9, l. 16-20) for general purpose processing and analysis of said images at said processor (p.9, l.20-22), using said RIS

client window and said RIS interaction masks. (p.9, l.21-24; p.11, l.15-18)

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL:

The issue to be reviewed on appeal is whether the subject matter of claims 1-11 would have been obvious to a person of ordinary skill in the field of designing computerized medical system architecture based on the teachings of United States Patent No. 6,359,628 (Buytaert) and United States Patent No. 6,578,002 (Derzay et al.), under the provisions of 35 U.S.C. §103(a).

ARGUMENT:

Rejection of Claims 1-11 Under 35 U.S.C. §103(a) As Being Unpatentable Over Buytaert In view of Derzay et al.

The basic purpose of the system disclosed in the Buytaert reference is to pool patient data with images on a monitor on a DLR system, which can make use of a radiology information system (RIS). The Buytaert reference, however, does not provide any details or teachings as to how the RIS interacts with the overall system, and specifically does not provide any teachings as to how, or even if, the RIS interacts with a user via display or user interface at a work station. The Buytaert reference is simply directed to exchanging text messages and displaying RIS client windows at a work station.

The acquisition system disclosed in the Buytaert reference makes use of an RIS in order to add demographic patient information to acquired images (read from RIS, write to image). The system disclosed in the Buytaert reference does not display the images for the purposes of making a diagnostic analysis thereof, but only for making a cursory check of the information content thereof and, as needed, to insert the aforementioned demographic patient information.

By contrast, the medical system architecture disclosed and claimed in the claims on appeal, as set forth in claim 1, makes use of an RIS mediator, which allows all workstations for all different imaging modalities (CT, MR, ultrasound, conventional x-ray, nuclear medicine, digital angiography, etc.) as well as multi-modality workstations, to communicate with each other. The use of a DLR system is possible in the architecture disclosed and claimed in the present application, however, this is but one example of one possible modality (for conventional x-ray systems).

For explaining the operation of the architecture disclosed and claimed in the present application, and for understanding the differences thereof with regard to the system described in the Buytaert reference, it should first be noted that an RIS contains only references to stored data. The actual data are stored in an archiving system, such as a PACS. A computer program (such as the commercially available Syngo program) must be activated by the RIS client via the RIS mediator, in order to load the referenced data from a PACS archive. For this purpose, a search for the data must be initiated, and the data, when found, then must be transferred from the archive to the work station at which the processor and interface are present. This is done under the control of the RIS mediator. Only after the requested (referenced) data are available at the processor does the RIS mediator start the application (program) selected by the RIS client, and provide the (now locally present) data to the program in order to display the necessary images. The architecture disclosed and claimed in the present application, therefore, enables a user to implement, at a single workstation (processor) the work steps selected by the RIS client and to

generate the necessary results. As soon as the user has achieved a satisfactory result, the user can mark the selected task as being completed in the RIS client.

Only because all operating tools (RIS, DICOM and post-processing software) are present at a single workstation can work list jobs be read that provide the necessary data, and be processed to completion without the user having to change workstations, and without the user having to be trained to use a number of different systems.

As noted above, even though the Buytaert reference mentions the display of RIS client windows, the only teaching in the Buytaert reference that can be found as to any use that is made thereof is for the purpose of adding the aforementioned demographic patient information to the acquired images. There is no teaching or suggestion in the Buytaert reference to conduct any type of image processing or analysis, nor is there any teaching or suggestion that all necessary steps for conducting such processing and analysis can be conducted via a single workstation (processor), by making use of an RIS mediator and an RIS server with the processor being programmed as an RIS client.

As explained in the present specification as originally filed in the description relating to Figure 5, beginning at the top of page 13, the RIS client software is started at the workstation, without the necessity of the use of a program developed at the software platform itself. By means of the RIS mediator, the RIS client is able to determine all programs that are available at the workstation at the start-up time, and also is able to obtain graphical symbols (icons) for each program or application, so that an optical presentation of all of the necessary icons in the user interface of the RIS client is possible. Not only is the optical integration of symbols enabled by the

RIS mediator, but also the RIS mediator allows the RIS system to start these applications or programs. Moreover, after a program or application has been started, the RIS mediator also allows the RIS client via the RIS server, to transmit the necessary references to the stored data that are needed to retrieve the stored data from an archiving location.

The Derzay et al. reference describes no more than a “remote services concept” for imaging modalities, in which an application or program can be started via an icon. The icons used in the Derzay et al. reference, however, do not permit the aforementioned functions of the RIS mediator, RIS client and RIS server to be accomplished, and therefore a person of ordinary skill in the field of devising medical system architectures using an RIS has no reason to consult a reference such as the Derzay et al. reference.

The aforementioned functions performed by the RIS mediator, the RIS client and the RIS server are exclusive to the use of an RIS, and therefore the Derzay et al. reference provides a person of ordinary skill in the field of medical system architecture design with no teachings in that area. The Derzay et al. reference therefore provides no more than generalized concepts relating to exchanging data between remote devices, and provides no guidance for embodying those teachings in, nor even any indication that those teachings can be used in, an RIS.

The Federal Circuit stated in *In re Lee* 227 F.3d 1338, 61 U.S.P.Q. 2d 1430 (Fed. Cir. 2002):

"The factual inquiry whether to combine references must be thorough and searching. ...It must be based on objective evidence of record. This precedent has been reinforced in myriad decisions, and cannot be dispensed with."

Similarly, quoting *C.R. Bard, Inc. v. M3 Systems, Inc.*, 157 F.3d 1340, 1352, 48 U.S.P.Q. 2d 1225, 1232 (Fed. Cir. 1998), the Federal Circuit in *Brown & Williamson Tobacco Court v. Philip Morris, Inc.*, 229 F.3d 1120, 1124-1125, 56 U.S.P.Q. 2d 1456, 1459 (Fed. Cir. 2000) stated:

[A] showing of a suggestion, teaching or motivation to combine the prior art references is an 'essential component of an obviousness holding'.

In *In re Dembiczkak*, 175 F.3d 994, 999, 50 U.S.P.Q. 2d 1614, 1617 (Fed. Cir. 1999) the Federal Circuit stated:

Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references.

Consistently, in *In re Rouffet*, 149 F.3d 1350, 1359, 47 U.S.P.Q. 2d 1453, 1459 (Fed. Cir. 1998), the Federal Circuit stated:

[E]ven when the level of skill in the art is high, the Board must identify specifically the principle, known to one of ordinary skill in the art, that suggests the claimed combination. In other words, the Board must explain the reasons one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention obvious.

In *Winner International Royalty Corp. v. Wang*, 200 F.3d 1340, 1348-1349, 53 U.S.P.Q. 2d 1580, 1586 (Fed. Cir. 2000), the Federal Circuit stated:

Although a reference need not expressly teach that the disclosure contained therein should be combined with another, ... the showing of combinability, in whatever form, must nevertheless be clear and particular.

Lastly, in *Crown Operations International, Ltd. v. Solutia, Inc.*, 289 F.3d 1367, 1376, 62 U.S.P.Q. 2d 1917 (Fed. Cir. 2002), the Federal Circuit stated:

There must be a teaching or suggestion within the prior art, within the nature of the problem to be solved, or within the general knowledge of a person of ordinary skill in the field of the invention, to look to

particular sources, to select particular elements, and to combine them as combined by the inventor.

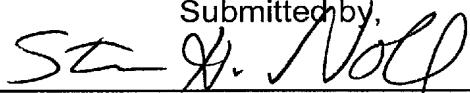
Moreover, the Derzay et al. reference does not provide any of the "missing" teachings discussed above with regard to the Buytaert reference, and thus even if the Buytaert reference were modified in accordance with the teachings of Derzay et al., the subject matter of claims 1 - 11 still would not result. Claims 1 - 11, therefore would not have been obvious to a person of ordinary skill in the field of medical architecture design, under the provisions of 35 U.S.C. §103(a) based on the teachings of Buytaert and Derzay et al.

CONCLUSION:

For the above reasons, Appellants respectfully submit the Examiner is in error in law and in fact in rejecting claims 1-11 of the application. Reversal of the rejection is proper, and the same is respectfully requested.

A check for the fee required by 37 C.F.R. §1.17(f) in the amount of \$500.00 was submitted with the originally-submitted Appeal Brief.

Submitted by,



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CLAIMS APPENDIX

1. A medical system architecture comprising:
 - a modality for acquiring examination images;
 - a processor connected to said modality for processing said examination images;
 - a user interface for said processor;
 - a transmission system connected to said processor for transmitting said examination images to a location remote from said processor;
 - a memory connected to said transmission system for storing said examination images;
 - an RIS server; and
 - said processor being programmed as an RIS client with an RIS mediator for exchanging text messages and for displaying an RIS client window at said interface and for creating RIS interaction masks at said interface, and producing a network connection to said RIS server for communicating with said RIS client to allow transfer of images from said remote location to said processor via said RIS server for general purpose processing and analysis of said images at said processor, using said RIS client window and said RIS interaction masks.
2. A medical system architecture as claimed in claim 1 wherein said processor comprises RIS client software for processing said examination images.

3. A medical system architecture as claimed in claim 2 wherein said processor includes general operating software, and wherein said RIS client software is integrated into said general operating software.

4. A medical system architecture as claimed in claim 2 wherein said processor includes a user interface, and wherein said RIS client software is integrated into said user interface.

5. A medical system architecture as claimed in claim 2 wherein said processor includes platform software, and wherein said RIS client software is integrated into said platform software.

6. A medical system architecture as claimed in claim 1 wherein said processor has a monitor, and wherein said processor is programmed for displaying said examination images on said monitor and for mixing said RIS client window into a display on said monitor next to said examination images.

7. A medical system architecture as claimed in claim 6 wherein said processor displays an icon on said monitor with which said RIS client window can be opened.

8. A medical system architecture as claimed in claim 1 wherein said processor includes a user interface, and wherein said RIS client has a task card allocated thereto on said user interface.

9. A medical system architecture as claimed in claim 1 wherein a workflow associated with acquiring and processing and processing said examination images is controlled by said RIS client for automatic information transmission.

10. A medical system architecture as claimed in claim 1 wherein said processor functions as a control console for said modality, and wherein said RIS client supplies data for analyzing said examination images.

11. A medical system architecture as claimed in claim 1 wherein said RIS client comprises a statistics module for evaluating data associated with said examination images.

EVIDENCE APPENDIX

Attachment "A": United States Patent No. 6,359,628 (Buytaert) - cited by the Examiner in each of the July 15, 2004 and June 2, 2005 Office Actions.

Attachment "B": United States Patent No. 6,578,002 (Derzay et al.) - cited by the Examiner in each of July 15, 2004 and June 2, 2005 Office Actions.

RELATED PROCEEDINGS APPENDIX

None.

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